

Patent claims

1. A method for monitoring a vibration gyro, which represents
a resonator and is part of at least one control loop which
5 excites the vibration gyro by supplying an excitation
signal at its natural frequency, in which case an output
signal can be tapped off from the vibration gyro, from
which the excitation signal is derived by filtering and
amplification, characterized in that the Q-factor of the
10 resonator is measured, and in that a fault message is
produced if the Q-factor is below a threshold value.
2. The method as claimed in claim 1, characterized in that
the excitation signal is switched off, and in that the
15 amplitude of the decaying output signal is evaluated in
order to produce the fault message.
3. The method as claimed in claim 2, characterized in that
the fault message is produced when the amplitude of the
20 output signal is below a predetermined value after a
predetermined time.
4. The method as claimed in claim 1, characterized in that an
additional phase shift of the excitation signal is
25 inserted temporarily into the control loop, and in that
any frequency change caused by this is evaluated.
5. The method as claimed in claim 4, characterized in that,
after amplification and analog/digital conversion, the
30 output signal is demodulated to an in-phase component and
a quadrature component, in that the quadrature component
modulates a carrier, after filtering, which carrier is
supplied as an excitation signal to the vibration gyro, in
that the in-phase component is supplied, after filtering,
35 to a PLL circuit, which controls the frequency and the
phase

of the carrier, in that a signal which corresponds to the frequency change is supplied to the PLL circuit in order to shift the phase of the excitation signal, and causes a phase change in the carrier.

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6. The method as claimed in claim 5, characterized in that the phase shift is approximately 10° with respect to the carrier.

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